

# IDAHO DEPARTMENT OF FISH & GAME

Jerry M. Conley, Director FEDERAL AID TO FISH & WILDLIFE RESTORATION

Job Completion Report

Project F-73-R-1

FISHERY RESEARCH



SUBPROJECT I. FISHERY RESEARCH SUPERVISION

Study II. A Survey of Fisherman Participation and Preferences

Period Covered: 1 March 1978 - 28 February 1979

by

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## **ABSTRACT**

During 1977 a total of 404,805 anglers fished in Idaho waters. About a third of the licensed anglers resided in Region 3. Anglers fished a total of 3,741,200 days or an average of 9.2 days per angler. Anglers spent the most time (68.8% of the days fished) seeking trout. Warmwater species and sturgeon combined for 17.5% of the days fished, kokanee 7.4%, steelhead 2.6%, whitefish 2.3% and salmon 1.4%.

Anglers listed the enjoyment of being out-of-doors as the primary reason for fishing. Only 12% listed getting fish for food as their primary reason for fishing.

Trout fishing was the first preference of most anglers (79%). Salmon fishing was the first preference of 4.6%, steelhead 4.6%, kokanee 4.9%, whitefish 0.1% and other species (warmwater fish and sturgeon) 6.7%. About 58% of the anglers preferred to fish in rivers or streams and 42% in lakes or reservoirs.

Anglers fishing Idaho waters during 1977 had a high degree of satisfaction with all fishery segments except for salmon and steelhead fishing. Anglers were quite satisfied with trout fishing (81.3%) and trout fishing in alpine lakes was the most satisfactory single segment (86.3%).

Most anglers favored more emphasis in the protection and enhancement of wild trout populations (69.0%), habitat protection (67.6%) and catchable-sized hatchery fish production (61.4%). Only 40% of the anglers favored more emphasis on warmwater fish introductions and management.

The majority of the anglers (60%) thought that the present limit of six fish was just right or too generous.

Over 73% of the anglers favored restriction of the fishery where needed to protect young trout, salmon and steelhead. Most fishermen (75%) thought that special regulations were worthwhile in order to produce better fishing. Less than half of the anglers (42%) had fished in special regulation waters but about 18% more indicated that they planned to in the future.

Seventy-one percent of the anglers favored the seeking of additional funds to maintain or expand existing programs. The remaining 29% of the anglers preferred that the department operate within current revenue levels even though it means cutting back programs.

Sixty percent of the anglers were of the opinion that fishing contests or tournaments should either be regulated (34%) or outlawed (26%). Forty percent favored that these contests remain unregulated.

Author:

Jerry Mallet  
Fishery Research Supervisor

## INTRODUCTION

In recent years the Idaho Department of Fish and Game has made an effort to obtain the public's opinion in regard to ongoing fishery management programs and in the direction of future management. In many instances, there is more than one management alternative that will perpetuate the resource and provide an acceptable fishery on a given body of water. In these situations the incorporation of angler desires in the decision making procedure is a means of maximizing angler satisfaction. Obviously, if biological options are limited, then the value of angler input is reduced.

Traditionally, public input has been sought by attendance at meetings of fish and wildlife oriented sportsmen groups, holding of public meetings, incidental contact by department personnel in the field and calls from the public. Contact obtained from these sources sampled only a small portion of the fishing public and a consensus of the total fishing public was difficult to perceive.

Idaho's first attempt at obtaining an overall view of the fishing public's opinions and preferences was undertaken in 1968 at the University of Idaho Cooperative Fishery Research Unit under a contract with the Idaho Department of Fish and Game (Gordon 1970). They utilized a questionnaire to monitor those citizens that had purchased a fishing license in 1967.

Angler preference questions are included in specific studies of a given body of water, but unfortunately many streams and lakes in Idaho have only infrequent or no in-depth inspections that provide this type of information. Local fishery managers have made a limited number of attempts to utilize a telephone survey to collect public desires on a specific fishery management question and some attempt to collect this type of information by specific angler opinion surveys on selected bodies of water.

We have heavily utilized the information collected in the 1968 survey in the decision making process in regard to fishery management policies. We felt a need to update our perception of public desires on our present fishery management programs and general fishery management philosophies. We needed to know if the public's opinions and preferences had changed significantly in the last 10 years.

Idaho's fish and wildlife plan (Idaho Department of Fish and Game 1978) lists a current problem in that there is a conflict in anglers preferences as to major species management on some waters and angler preferences on many waters are unknown. The plan's strategy to solve this problem is to conduct public opinion surveys in order to more accurately satisfy angler preferences.

Our sample in 1978 was designed to collect angler input on those questions that are most vital to making fishery management decisions in the future.

Specific objectives of this investigation were: 1) to monitor the opinions and preferences of Idaho anglers, 2) to determine types of fishing activity engaged in and types of fishing activity preferred by Idaho resident and nonresident fishermen and 3) to determine the fishing public's attitude and desires in regard to possible future goals in the management of the state's fishery resources.

## **SURVEY METHODS**

I selected a sample of people who had purchased a 1977 fishing license. Each individual was sent a questionnaire and a follow-up questionnaire if he had not responded to the initial request in a given amount of time. We summarized the angler's answers with the aid of a computer.

### Questionnaire Preparation and Content

I solicited areas of concern and specific questions for the questionnaire from our biological staff in fisheries. This included regional fishery managers, regional fishery biologists, fishery research biologists and the State office fishery staff. I also selected important questions from Gordon's questionnaire (Gordon 1970) that could be directly compared to obtain changes in angler attitudes in the 10-year period between the two efforts.

I put together a questionnaire that best reflected the concerns of our personnel and submitted it for review by our state fishery staff, the Director, the Assistant Director and each of the Commissioners.

The questionnaire (Fig. 1) contained questions relating to 1) fishing activity in 1977, 2) opinions and preferences on key management programs, problems or concerns, and 3) the degree of angler satisfaction on various fishery segments.

We incorporated our introductory letter in the questionnaire in order to reduce the amount of paper that the individual would have to sort through.

### Sample Size and Selection

I selected a 3% sample that was drawn from those anglers that had purchased a 1977 Idaho fishing license of each of the following types: 1) resident combination license, 2) resident season fishing license and 3) non-resident season fishing license. The 3% sample was drawn randomly from each of these three license classes. I used a programmable calculator to generate a random list of license numbers to be selected in each category.

The names and addresses were key punched and entered in a computer program that generated a set of mailing labels that included the individual's license number.

My initial sample was 7,127 individuals. However, 121 or 1.7% of the sample was undeliverable with the address that was taken from the stubs. The adjusted sample was 7,006 after the undeliverable questionnaires were subtracted.

### Mailing Procedures

The initial mailing of the questionnaire occurred on July 2, 1978. The questionnaires were coded and key punched as they were returned. The computer program was designed so that it was able to generate mailing labels for those individuals that had not returned their questionnaire on a given date. We sent a follow-up questionnaire to all those individuals that had not returned their questionnaire by August 24, the date of the second mailing.





# STATE OF IDAHO

## DEPARTMENT OF FISH AND GAME

600 SO. WALNUT ST. - P. O. BOX 25  
BOISE, IDAHO 83707

Dear Angler:

This questionnaire is designed to assess your preferences and attitudes on a number of key issues and problems in Idaho fishery management. This is an opportunity for you to participate in decisions regarding the future management of fish in Idaho. Please take the time to provide us with the information requested. We enclose an addressed, stamped envelope for your return.

Thank you,

*Joseph C. Greenley*  
Joseph C. Greenley, Director  
Idaho Department of Fish and Game

### — ANGLER PREFERENCE SURVEY —

1. Did you fish in Idaho in 1977?

☐

Yes

☐

No

2. If you fished in Idaho during 1977, where was most of your effort expended?  
(List name of stream, lake and/or reservoir and county if you know it.)

\_\_\_\_\_ Water \_\_\_\_\_ County  
\_\_\_\_\_ Water \_\_\_\_\_ County  
\_\_\_\_\_ Water \_\_\_\_\_ County

3. Please estimate and list below how many days you fished in each of the designated fisheries in Idaho during 1977.

Number of  
Days Fished

- \_\_\_\_\_ A. For salmon?  
\_\_\_\_\_ B. For steelhead  
\_\_\_\_\_ C. In high mountain lakes (Those lakes that you cannot drive to)?  
\_\_\_\_\_ D. In lakes and reservoirs for trout?  
\_\_\_\_\_ E. In lakes and reservoirs for kokanee?  
\_\_\_\_\_ F. In lakes and reservoirs for other species (bass, crappie, perch, etc.)?  
\_\_\_\_\_ G. In streams and rivers for trout?  
\_\_\_\_\_ H. In streams and rivers for whitefish?  
\_\_\_\_\_ I. In streams and rivers for other species (bass, catfish, sturgeon, etc.)?

4. List the approximate number of fish you caught during 1977.

A. Trout \_\_\_\_\_ E. Bass \_\_\_\_\_ I. Sturgeon \_\_\_\_\_  
B. Steelhead \_\_\_\_\_ F. Kokanee \_\_\_\_\_ J. Crappie & Sturgeon \_\_\_\_\_  
C. Catfish \_\_\_\_\_ G. Perch \_\_\_\_\_ K. Nongame Fish \_\_\_\_\_  
D. Salmon \_\_\_\_\_ H. Whitefish \_\_\_\_\_

5. If you fished for trout, please check the boxes below that apply:

I fished with:	100%	Percent of my angling time 75%	50%	25%	0%
Flies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bait	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Would you prefer to catch (please check one):

- A. ☐ Six trout 6 to 10 inches long?  
B. ☐ Three trout 12 inches long?  
C. ☐ One trout 16 inches long or longer?

7. Please rank your top three preferences in types of fishing. (Give a rank of 1 to the fishing you prefer most, 2 to your next preference and 3 for your third preference).

Rank	Type of Fishing
_____	A. Salmon fishing
_____	B. Steelhead fishing
_____	C. Fishing in high mountain lakes
_____	D. Fishing in lakes and reservoirs for trout
_____	E. Fishing in lakes and reservoirs for kokanee
_____	F. Fishing in lakes and reservoirs for other species (bass, perch, catfish, etc.)
_____	G. Fishing in rivers and streams for trout
_____	H. Fishing in rivers and streams for whitefish
_____	I. Fishing in rivers and streams for other species (bass, catfish, sturgeon, etc.)

(Continued on back)

8. Please rank your "satisfaction" (from 1 to 4) for EACH of the following types of fishing in Idaho.

_____ A. Salmon	Rank
_____ B. Steelhead	1. Excellent
_____ C. High mountain lakes	2. Satisfactory
_____ D. Lakes and reservoirs for trout	3. Unsatisfactory
_____ E. Lakes and reservoirs for kokanee	4. No opinion
_____ F. Lakes and reservoirs for bass, perch, crappie, etc.	
_____ G. Rivers and streams for trout	
_____ H. Rivers and streams for whitefish	
_____ I. Rivers and streams for other species (bass, catfish, sturgeon, etc.)	

9. Do you feel that the present limit of 6 fish, only 2 of which may be over 16 inches, is (please check one):

- A. ☐ Too many  
 B. ☐ Just right  
 C. ☐ Too low  
 D. ☐ No opinion

10. Some lakes, rivers and streams in Idaho are important natural rearing areas for young trout, salmon and steelhead. Some young trout, steelhead and salmon, which average 6 to 8 inches, are caught and kept during the trout season before they have a chance to reach larger size. Do you feel that:

- A. ☐ The trout fishery should be restricted to protect these young fish?  
 B. ☐ The trout fishery should not be restricted and the loss of young fish should be accepted?  
 C. ☐ No opinion?

11. If you knew that restrictions were needed to reduce the numbers of fish taken on a given water in Idaho in order to maintain the existing fish populations, would you prefer to see:

- A. ☐ Restrictive method such as "artificial lures only"?  
 B. ☐ Shorter Seasons?  
 C. ☐ Reduced bag limits?  
 D. ☐ No opinion?

12. Increased fishing pressure has reduced wild trout populations in many Idaho streams. Which management option do you prefer?

- A. ☐ Restrict catch of wild trout to maintain wild populations.  
 B. ☐ Continue present limits and seasons and stock heavily.  
 C. ☐ No opinion

13. Please indicate if you believe the Department of Fish and Game should place more, less or no change in emphasis on all activities listed below. Then please rank (1 & 2) the two activities you believe are most important.

	More	Less	No Change	Rank
A. Catchable-sized hatchery fish production.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
B. Protection and enhancement of wild trout populations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
C. Warm water fish (bass, crappie, etc.) introductions and management.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
D. Habitat protection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
E. Other (please list).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

14. A number of Idaho's better trout waters have been set aside by special regulations to protect wild trout populations. In these waters, both the size and numbers of fish caught has increased over what it was before restrictions were imposed.

A. Do you think that special trout regulations such as reduced limits or "fish for fun" are worthwhile?

- ☐ Yes ☐ No ☐ No opinion

B. Have you fished in trout waters with special regulations?

- ☐ Yes ☐ No ☐ I plan to in future

15. Funding for the Department of Fish and Game from license revenues is not keeping pace with inflation and the need for increased involvement with the resource. Would you prefer that (please check one):

- A. ☐ We operate within current revenue levels even though it means cutting back programs.  
 B. ☐ We seek additional funds to maintain or expand existing programs (additional funds might come from license increase, general fund appropriation or another source).  
 C. ☐ No opinion.

16. If it were found that some segment of the Idaho fishery you enjoyed was too expensive to maintain with presently available funds, would you be willing to pay an additional fee through a special stamp or license?

	NO	If yes, how much?					More
		\$1	\$3	\$5	\$10		
A. Salmon	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Steelhead	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. High mountain lakes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Lakes and reservoirs for trout	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Lakes and reservoirs for bass, crappie, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. Streams for trout	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G. Streams for bass, catfish, sturgeon, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H. Other (list)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17. There are currently no rules or regulations in Idaho governing fishing contests or tournaments. A growing number of fishing tournaments and contests are being held in Idaho which offer large cash and merchandise prizes. Do you feel that (please check one):

- A. ☐ These contests should remain unregulated?  
 B. ☐ These contests should be regulated and/or limitations placed on prize values?  
 C. ☐ These contests should be outlawed?  
 D. ☐ No opinion.

18. Please rank the 3 most important reasons why you fish in order of priority. Most important reason = 1, second most important = 2, third most important = 3.

- \_\_\_\_\_ A. Get away from people  
 \_\_\_\_\_ B. Get fish for food  
 \_\_\_\_\_ C. Fishing as a sport  
 \_\_\_\_\_ D. Be with friends/socialize  
 \_\_\_\_\_ E. Enjoy the out-of-doors  
 \_\_\_\_\_ F. Family experience  
 \_\_\_\_\_ G. Test fishing skills/challenge  
 \_\_\_\_\_ H. Catch a few large fish  
 \_\_\_\_\_ I. Catch many fish  
 \_\_\_\_\_ J. Catch wild fish  
 \_\_\_\_\_ K. Other

19. Do you have other suggestions in regard to Idaho's fisheries?

## Questionnaire Returns

We had 3,205 questionnaires returned with usable information. Our return rate was 45.7% of the questionnaires that were sent. The 3,205 usable returns represented a sample that was 1.4% of the total anglers that purchased fishing licenses in 1977.

## Non-response Bias

There is always concern that the group of respondents that doesn't return a fishing questionnaire has had a lesser degree of participation and/or success than the group that readily returns their questionnaire. This obviously can lead to inflated estimates.

Bjornn and Dalke (1975) found in their hunter questionnaire some non-response bias in regard to the percent that actually hunted. Their data indicated that their estimate of percent that actually hunted was 14% too high. However, they found only small differences in responses to the attitude and preference questions between respondents to the first mailing, to all contracts and the projected response from all people in the sample. They found that in all cases the differences in response were small and probably insignificant from a management viewpoint.

I believe that response to our attitude and preference questions should not vary greatly in non-response bias from that of Bjornn & Dalke. Consequently, I did not investigate non-response bias and consider it minor in regard to the utility of my data.

## Questionnaire Analysis

The data from the 1977 fishery was summarized by regional management areas that are currently in use. These units have changed considerably since 1967 when Gordon conducted his study. Consequently, our regional data is not directly comparable to Gordon's regional breakdowns.

I departed somewhat from standard reporting techniques in treating anglers with no opinion on a given topic. I believe that it is important that we know what percent of the fishing public is sufficiently informed on a given topic to understand or care enough about it to offer an opinion. Consequently, I listed the percentage of the sample that offered an opinion on each topic and those that had no opinion. I believe it is also important that we know what portion of those anglers offering an opinion favor each option. Consequently, subsequent to listing those that had no opinion on a given subject, I did not utilize their number in analyzing the choice between various options. I listed the percent of those expressing an opinion for each option. I believe that my analysis makes the data of more practical use to fishery managers and administrators. However, my data is not directly comparable to most other studies without adjustment. I adjusted Gordon's data for comparison with the 1977 data.

## **THE IDAHO ANGLER**

### Residence of Anglers

The population in Idaho was 828,000 by 1975 and increasing (Idaho Division of Tourism and Industrial Development 1977). Outdoor activities, especially fishing, hunting and camping play an important part in the lives of Idaho citizens. "Of all

resident families, 85% have one or more members who fish" (J.A. Research 1972).

In 1975 about 34% of Idaho's population resided in Region 3 (Table 1). The other five Fish & Game Regions each contained from 10-15% of the state's population. The resident license holders residing in each region was in about the same proportion as the population.

**Table 1.** The 1975 census by Fish and Game management regions and the percentage of resident fishing license holders (resident fish and resident combination) residing in each region.

Region	1975 population <sup>1/</sup>	%	1977 resident fishing licenses	%
1	97,820	11.8	28,616	13.5
2	87,980	10.6	22,472	10.6
3	280,680	33.9	69,429	32.8
4	126,910	15.3	31,212	14.7
5	119,690	14.5	28,566	13.5
6	<u>114,960</u>	<u>13.9</u>	<u>31,656</u>	<u>14.9</u>
Total	828,040	--	211,951	--

1/ Figures taken from Idaho Almanac (Idaho Division of Tourism and Industrial Development 1977).

#### Total Anglers

During 1977 a total of 404,805 anglers fished in Idaho waters. There were 406,925 fishing license holders of which 88.9% or 361,756 actually fished. An additional 43,049 anglers<sup>1</sup> were under 14 years of age and were not required to have a license. The number of licensed anglers in Idaho was approximately the same as that in Oregon (Lowery 1978) and Utah (Bangerter 1977), two adjacent states with larger populations.

A larger percentage (96.2%) of the nonresident season license purchasers fished than did resident license holders (88.1%) (Table 2). Slightly more resident fishing license holders (89.1%) fished than did resident combination license holders (87.3%). A Chi-square test indicated that the percentage of resident license holders that actually fished was not greater than that of resident combination license holders (5% level).

Other states had a similar percentage of license buyers that actually fish. For example, 81% of the resident license buyers in North Dakota actually fished (Duerre 1977).

<sup>1</sup>Gebhards (1964) found that 11.9% of the anglers fishing in Region 4 waters were under 14 years of age.

**Table 2.** Percentage of 1977 fishing license holders that fished during the year, by region of residence.

Region	Fished	Did not fish
1	86.7	13.3
2	85.0	15.0
3	89.0	11.0
4	87.1	12.9
5	89.7	10.3
6	89.0	11.0
7 <sup>1/</sup>	<u>96.2</u>	<u>3.8</u>
Weighted $\bar{X}$	88.9	11.1

<sup>1/</sup> Nonresident anglers.

#### Days Fished

Anglers fished a total of 3,741,200 days during 1977 or an average of 9.2 days per angler. Resident anglers averaged 11.6 days each and nonresidents 2.2 days.

#### Fishing Pressure by Fishery Segment

Anglers spent the most time (68.8% of the days fished) seeking trout. Warmwater species and sturgeon combined for 17.5% of the days fished, kokanee 7.4%, steelhead 2.6%, whitefish 2.3% and salmon 1.4% (Table 3).

#### Waters Fished

Anglers listed up to three waters where they expended the most effort during 1977. Cascade Reservoir was listed more than any other lake, reservoir or stream section (Table 4). The Snake River was listed separately in each region. When the Snake River was considered as a single entity, it surpassed Cascade Reservoir as the body of water listed most. Waters in each region that anglers listed as most fished are detailed in Appendix Tables 1 to 6 and separated by region of residence of the angler. This data lists waters that anglers fished but since it does not list days fished, it may not accurately reflect total use.

**Table 3.** Total estimated days fished in Idaho during 1977 by management region and by fishery segment.

Fishery segment	Total days fished (thousands)							Total
	Region of residence							
	1	2	3	4	5	6	7 <sup>1/</sup>	
Salmon	6.4	5.9	12.3	10.7	6.4	9.0	2.5	53.2
Steelhead	4.1	48.8	11.5	4.3	3.1	16.8	9.9	98.5
Alpine lakes	12.0	14.2	39.4	14.1	10.6	17.0	5.7	113.0
Trout (lakes & res.)	136.2	68.6	327.2	183.1	153.3	129.3	146.5	1,144.2
Kokanee (lakes & res.)	95.1	24.0	62.8	4.4	5.8	16.5	67.0	275.6
Other species (lakes & res.)	91.4	23.4	230.9	38.4	23.8	7.9	25.6	441.4
Trout (streams)	129.1	123.8	341.2	176.5	200.2	259.5	86.9	1,317.2
Whitefish (streams)	8.4	8.1	25.3	4.2	8.3	22.5	7.4	84.2
Other species (streams)	11.8	18.8	148.2	18.4	3.0	7.7	6.0	213.9
Total	494.5	335.6	1,198.8	454.1	414.5	486.2	357.5	3,741.2

<sup>1/</sup> Nonresident anglers

**Table 4.** Waters listed as most used in 1977 by anglers returning questionnaires.

Rating	Water	Region	Rating	Water	Region
1	Cascade Reservoir	3	6	Pend Oreille Lake	1
2	Coeur d'Alene Lake	1	7	Snake River	3
3	Salmon River & tribs. <sup>1/</sup>	6	8	Payette R. & tribs.	3
4	Henrys Fork & tribs.	6	9	Magic Reservoir	4
5	Clearwater R. & tribs. <sup>2/</sup>	2	10	Boise R. & tribs. <sup>3/</sup>	3

<sup>1/</sup> Does not include Middle Fork

<sup>2/</sup> Does not include Selway or Lochsa rivers

<sup>3/</sup> Does not include Middle Fork or South Fork

More anglers listed waters in region 3 than in any other region (Table 5) as might be expected with a third of the anglers residing in that region.

**Table 5.** Waters listed (by region) as most used in 1977 by anglers returning questionnaires.

Region	Number	Percent
3	1,584	28.0
6	1,288	22.8
1	844	14.9
4	793	14.0
5	635	11.2
2	<u>517</u>	9.1
Total	5,661	

### Reasons for Fishing

Anglers listed the enjoyment of being out-of-doors as the primary reason for fishing. Only 12% listed getting fish for food as their primary reason for fishing (Table 6). Most anglers fish primarily because they enjoy the out-of-doors (32.6%), enjoy fishing as a sport (29.9%), seek fish for food (12.1%), like the solitude of being alone (7.7%), or enjoy it as a family experience (8.0%). Other reasons for fishing made up less than 10% of the responses. Reasons for fishing such as catching a few large fish (1.3%), catching wild fish (0.4%) and catching many fish (0.1%) were not important to most anglers in comparison to other reasons for fishing. This does not mean that they are unimportant, but only that they are a fringe benefit to those individuals that fish for some other reason. Obviously without fish to catch, anglers would be forced to turn to other outdoor activities to enjoy the out-of-doors.

This particular question was patterned after one in Oregon's 1977 questionnaire (Lowery 1978). The response by anglers in both states was almost identical (Table 7). Wyoming (Phillips & Ferguson 1977) also asked anglers why they fished. Wyoming's options were dissimilar enough to prevent direct comparison. However, Wyoming anglers gave more attention to trophy fishing and wild fish.

### Preferred Species & Type of Water

Most of the anglers in our sample preferred to fish for trout (79%). Other fish species were preferred as follows: salmon - 4.6%, steelhead - 4.6%, kokanee - 4.9%, whitefish - 0.1% and other species (warmwater fish and sturgeon) - 6.7%.

About 58% of the anglers preferred to fish in rivers or streams and 42% in lakes or reservoirs (Table 8).

**Table 6.** The primary reason for fishing (in percent) as listed by anglers responding to the questionnaire.

Reasons for fishing	All anglers	Region of residence						
		1	2	3	4	5	6	7 <sup>1/</sup>
Enjoy out-of-doors	32.6	32.9	29.2	36.8	29.8	29.8	32.6	31.2
Fishing as sport	29.9	30.7	36.2	25.1	29.8	32.4	29.1	34.6
Get fish for food	12.1	17.3	13.3	11.0	12.9	9.5	14.0	8.3
Family experience	8.0	6.4	7.0	8.6	8.0	8.9	9.4	6.4
Get away from people	7.7	5.3	4.8	9.9	9.5	8.6	4.9	7.1
Test fishing skills	4.6	3.9	4.4	3.7	5.8	6.0	3.7	6.0
Be with friends/socialize	2.7	1.8	2.6	2.9	2.1	2.1	4.3	2.6
Catch a few large fish	1.3	0.7	1.8	1.1	0.9	2.4	0.6	1.9
Catch wild fish	0.4	0.7	0.4	0.0	0.6	0.3	0.3	1.9
Catch many fish	0.1	0.0	0.0	0.1	0.0	0.0	0.6	0.0
Other	0.4	0.4	0.4	0.6	0.6	0.0	0.6	0.0

<sup>1/</sup> Nonresident anglers.



**Table 7.** The primary reason for fishing (in percent) as listed by anglers responding to a fishery questionnaire in Idaho and in Oregon.

Reason for fishing	Idaho	Oregon <sup>1/</sup>
Enjoy out-of-doors	32.6	28
Fishing as sport	29.9	29
Get fish for food	12.1	16
Family experience	8.0	9
Get away from people	7.7	8
Test fishing skills	4.6	3
Be with friends/socialize	2.7	3
Catch a few large fish	1.3	1
Catch wild fish	0.4	1
Catch many fish	0.1	1
Other	0.4	0

<sup>1/</sup> From Lowery (1978)

Salmon fishing has lost much of its popularity because of low run size and curtailed limits. Greatest interest was shown for this fishery by anglers from Regions 1, 3 & 4 (5.7, 5.0 and 6.1%, respectively).

Steelhead fishing was preferred by far more Region 2 anglers (15.2%) than by anglers from any other region. Anglers in Regions 4 and 5 expressed a low preference (1.7% each) for steelhead fishing.

Alpine lake fishing was preferred most by anglers residing in Regions 2 & 3 (9.5 & 10.0%, respectively) and least by Region 5 anglers (5.8%). Region 5 contains no alpine lakes within its boundaries.

Trout fishing in lakes and reservoirs was a favorite of Region 4 anglers (31.5%) and was preferred least by Region 2 anglers (9.2%).

Kokanee fishing was an obvious favorite (15.5%) of Region 1 anglers and had a very low preference percentage in Regions 4, 5, & 6 (0.6, 0.6 and 0.8%, respectively).

Region 3 had the greatest preference for warmwater species in lakes and reservoirs (10.1%) while Region 6 anglers showed the smallest preference (1.6%) for this fishery segment.

Trout fishing in rivers and streams was the most popular fishery segment. Regions 5 and 6 had more anglers that preferred this fishery (59.3 & 60.4%, respectively). Stream fishing had its lowest preference total (37.2%) in Region 1.

Warmwater fish in rivers and streams was most popular in Regions 3 & 5 (3.6 and 2.7%, respectively) and its lowest (0%) in Region 6.

**Table 8.** Preferred types of fishing by Idaho anglers in 1977, first choice, listed in percentages.

Fishery segment	All anglers	1	2	3	4	5	6	7 <sup>1/</sup>
Salmon	4.6	5.7	2.1	5.0	6.1	3.6	3.8	5.3
Steelhead	4.6	4.1	15.2	3.9	1.7	1.7	3.5	5.7
Alpine lakes	7.7	6.8	9.5	10.1	7.0	5.8	7.0	3.9
Trout (lakes & res.)	24.6	23.3	9.2	23.7	31.5	27.4	22.8	34.6
Kokanee (lakes & res.)	4.9	15.5	8.5	2.8	0.6	0.6	0.8	12.7
Others (lakes & res.)	5.2	6.1	3.2	10.1	2.8	1.4	1.6	3.5
Trout (rivers & streams)	46.7	37.2	50.5	40.6	49.6	59.3	60.4	33.9
Whitefish (rivers & streams)	0.1	0.0	0.4	0.2	0.3	0.0	0.0	0.0
Others (rivers & streams)	1.5	1.4	1.4	3.6	0.6	2.7	0.0	0.4

<sup>1/</sup> Nonresident anglers.

## Terminal Gear Preference

In Idaho, most anglers fished with bait (95.6%) and lures (91.8%) at least part of the time (Table 9). Over three quarters of the anglers (78.5%) used flies at least one quarter of the time they spent fishing.

**Table 9.** The percentage of questionnaire respondents using each fishing method 100, 75, 50, 25 and 0 percent of the time.

Fishing method	Percentage of time each fishing method used				
	100	75	50	25	0
Flies	14.2	14.8	16.4	33.1	21.5
Lures	11.3	12.9	24.7	42.9	8.2
Bait	31.0	21.6	22.9	20.1	4.4

Terminal gear use by region varied little from the statewide average (Appendix Table 16).

## **OPINIONS OF IDAHO ANGLERS**

### Angler Satisfaction

Anglers fishing Idaho waters during 1977 had a high degree of satisfaction with all fishery segments except for salmon and steelhead fishing.

Anglers were quite satisfied with trout fishing (81.3%) and trout fishing in alpine lakes was the most satisfactory single segment (86.3%). All other fishery segments had 75% or more anglers that expressed satisfaction except for salmon and steelhead fishing where satisfaction (and dissatisfaction) was near 50% (Table 10).

Satisfaction with salmon fishing (44.5%) was the lowest registered for any fishery segment. Regions 1 and 4 were the only regions whose anglers had more satisfied salmon anglers than unsatisfied ones (Appendix Table 8). Region 2 had only 36.6% of the anglers that were satisfied with salmon fishing.

Only slightly more than half (52%) of the anglers were satisfied with steelhead fishing. Anglers from Region 4 had the highest degree of satisfaction (64%) and those from Region 3 the lowest (44.5%) (Appendix Table 9).

Fishing in alpine lakes was highly satisfactory to anglers residing in all regions. Anglers from Region 4 had the highest degree of satisfaction (91.8%) with this fishery segment while Region 5 had the lowest (81.8%) (Appendix Table 10).

Fishing for trout in lakes and reservoirs was highly satisfactory to anglers from all regions. Region 5 anglers had the highest degree of satisfaction with this type of fishing (85.2%) and Region 1 the lowest (72.6%) (Appendix Table 11).

Kokanee fishing was judged satisfactory by the majority of the anglers in each region despite recent declines in key kokanee populations. Region 1 anglers had the highest degree of satisfaction (80.8%) and Region 5 the lowest (66.7%) (Appendix Table 12).

Fishing for warmwater species (bass, perch, crappie, etc.) in lakes and reservoirs was satisfactory in the eyes of most Idaho anglers. More Region 3 anglers rated this segment satisfactory (82.2%) and fewer Region 6 anglers (67.2%) (Appendix Table 13).

The most popular segment of Idaho's fishery (trout fishing in rivers and streams) was judged satisfactory by most anglers. Region 4 anglers had the highest degree of satisfaction (86.3%) and Region 1 anglers the least (70.9%) (Appendix Table 14).

Whitefish angling was rated as a quite satisfactory fishery segment even though it was not the first choice of many Idaho anglers. Region 1 anglers had the highest degree of satisfaction (81.7%) and Region 4 anglers the lowest (74.6%) (Appendix Table 15).

Warmwater fishing (bass, catfish, sturgeon, etc.) in rivers or streams was judged to be satisfactory by most anglers in most regions. Region 4 anglers had the highest degree of satisfaction (81.1%) while Region 6 anglers were the only group in which less than half (48.9%) rated it satisfactory (Appendix Table 16).

**Table 10.** Degree of satisfaction with various fishery resource segments (in percent) for 1977 fishery.

Species	Excellent	Satisfactory	Unsatisfactory
Salmon	13.5	31.1	55.5
Steelhead	13.8	38.1	48.0
High lakes	27.4	58.9	13.7
Trout (lakes & res.)	21.1	59.0	19.8
Kokanee (lakes & res.)	17.8	56.4	25.8
Other (lakes & res.)	22.6	57.3	20.2
Trout (rivers & str.)	27.9	51.7	20.4
Whitefish (rivers & str.)	19.3	58.6	22.1
Other (rivers & str.)	15.3	57.3	27.4

#### Program Emphasis

We selected four important fishery programs on which to solicit angler desires

in regard to the intensity of future management effort. Anglers were asked whether the department should place more emphasis, less emphasis or not change emphasis on each of the following programs: 1) catchable-sized hatchery fish production, 2) protection and enhancement of wild trout populations, 3) warmwater fish (bass, crappie, etc.) introductions and management, 4) habitat protection and 5) other programs.

Most anglers favored more emphasis in the protection and enhancement of wild trout populations (69.0%), habitat protection (67.6%) and catchable-sized hatchery fish production (61.4%) (Table 11). Only 40% of the anglers favored more emphasis on warmwater fish introductions and management while 44.8% favored no change in emphasis on this program. Less than a third of the anglers favored the status quo in management of wild trout, habitat protection and catchable-sized hatchery fish production.

All regions had a high level of anglers desiring more emphasis on protection and enhancement of wild trout populations with the lowest percent (64.0%) being from Region 2 (Appendix Table 17).

Habitat protection emphasis also rated high with anglers from all regions with over two-thirds of the anglers in all regions suggesting more emphasis by the Department (Appendix Table 18).

**Table 11.** Angler preferences (in percent) in regard to desired program emphasis on four important fishery programs.

Program	More emphasis	Less emphasis	No change in emphasis
Protection & enhancement of wild trout populations	69.0	4.4	26.6
Habitat protection	67.6	3.3	29.1
Catchable-sized hatchery fish production	61.4	6.8	31.8
Warmwater fish introductions and management	40.0	15.2	44.8

At least 50% of the anglers in all regions desired more emphasis on catchable-sized hatchery fish production (Appendix Table 19). Region 5 anglers had the highest desire for more emphasis in the program (71.2%) and Region 1 anglers the smallest (54.2%).

A larger percentage of the anglers in all regions were satisfied with present management emphasis for warmwater fish introductions and management (Appendix Table 20). Regions 2, 3 and 4 had over 40% favoring more emphasis for this program with Region 1, 5 and 6 having slightly over 30% in favor of more emphasis.

Anglers were asked to rank (1 & 2) which of these four management areas were most important. More anglers (35.6%) listed catchable-size hatchery fish production as most important (Table 12). Only slightly less anglers (32.8%) listed the protection and enhancement of wild trout populations as their first choice. Habitat protection was listed first by 19.7% of the anglers and warmwater fish introductions and management was listed first by 8.5%.

Anglers second choice of importance of these management programs was protection and enhancement of wild trout populations (32.9%), habitat protection (25.4%), catchable-sized hatchery trout production (22.4%) and warmwater fish introductions and management (17.1%).

When anglers' first and second choices were combined with a weighting of 2 for a first choice and 1 for a second choice we could develop a view of their overall thinking in regard to these programs (Table 12). Under this analysis, I found that the protection and enhancement of wild trout populations was considered most important by anglers (32.9%) followed by catchable-size hatchery fish production (31.2%), habitat protection (21.6%) and warmwater fish introductions and management (11.4%).

**Table 12.** Angler rankings of the relative importance of four major management programs.

Program	Most important (%)	Second most important (%)	Combined ranking (%) <sup>1/</sup>
Catchable-sized hatchery fish production	35.6	22.4	31.2
Wild trout protection and enhancement	32.8	32.9	32.9
Habitat protection	19.7	25.4	21.6
Warmwater fish introductions & management	8.5	17.1	11.4
Other programs	<u>3.3</u>	<u>2.1</u>	<u>2.9</u>
Total	100	100	100

<sup>1/</sup> Number 1 ranking weighted with a value of 2 and number 2 ranking weighted with a value of 1.

### Evaluation of Present Limits

Eighty-eight percent of the respondents offered an opinion in regard to present limits. The majority of the anglers that offered an opinion (60%) thought that the present limit (six fish, of which no more than two can exceed 16 inches in length) was just right or too generous (Table 13). About 40% of the anglers were dissatisfied with present limits because they thought that they were too low. Dissatisfaction with

the trout limit increased from 6% in 1967 (15-fish limit) to 40% in 1977 (6-fish limit). During 1967, 82% thought limits were just right while 57% thought so in 1977.

**Table 13.** Angler satisfaction (in percent) with the 1977 trout limit (6 fish, only 2 may be over 16 in) and a comparison with 1967 data (15 fish).

Region	Too many	Just right	Too low
1	4.9	56.3	38.7
2	4.3	47.7	48.0
3	3.1	59.5	37.4
4	3.4	61.2	35.3
5	3.8	56.3	39.9
6	3.1	54.4	42.5
7 <sup>1/</sup>	<u>5.9</u>	<u>55.1</u>	<u>39.0</u>
Weighted $\bar{X}$	3.8	56.6	39.6
1967 $\bar{X}$ <sup>2/</sup>	12.0	82.1	5.9

<sup>1/</sup> Nonresident anglers.

<sup>2/</sup> Adjusted from Gordon (1970) to include only those anglers that expressed an opinion.

### Preferred Bag Limit

When anglers were asked to choose between the present bag limit size (6 fish) and two bag limits of lesser numbers (3 fish & 1 fish) but larger fish size, they were almost evenly split on the present limit (6 fish) and smaller fish (6-10") and half the present limit (3 fish) and larger fish size (12"). The extreme of catching only 1 fish at a very large size (16") trailed badly (Table 14).

In the 1967 questionnaire (Gordon 1970) anglers were rating the then limit of 15 fish (6-10") with 6 fish (12") and 1 fish (15"). In both studies anglers preferred a moderate number of reasonable size fish. However in 1977 more anglers favored 1 very large fish (20.7% in 1977 vs. 14.3% in 1967). Accurate comparisons between the other categories are difficult because of the reduced size of the liberal choice in 1977 that corresponds to the present bag limit. Six fish is the generous option in 1977 but was the middle option in 1967.

**Table 14.** Angler preferences (in percent) in regard to desired bag limit when the most generous option corresponds to the current statewide bag limit.

Region	6 Trout (6-10")	3 Trout (12")	1 Trout ≥ 15"
1	44.6	41.7	13.7
2	52.2	30.8	17.0
3	37.7	43.7	18.6
4	32.6	41.4	26.0
5	37.6	37.3	25.1
6	41.0	39.1	19.9
7 <sup>1/</sup>	<u>26.7</u>	<u>46.0</u>	<u>27.4</u>
Weighted $\bar{X}$	38.5	40.7	20.7
1967 $\bar{X}$ <sup>2/</sup>	28.3	57.4	14.3
	(15 trout) 6-10"	(6 trout) 12"	(1 trout) ≥ 15"

<sup>1/</sup> Nonresident anglers.

<sup>2/</sup> Adjusted from Gordon (1970) to include only those anglers that expressed an opinion.

#### Types of Fishing Restrictions Preferred

Seventy-eight percent of the respondents offered an opinion in regard to the type of restriction that they would prefer should further restrictions become necessary in the future. If further fishing restrictions become necessary, 39% of the anglers offering an opinion prefer a reduction in the bag limit, 33% prefer shorter seasons and 28% prefer a restriction in the method of fishing (Table 15). In contrast, in 1967 when limits were more generous (15 fish), almost half (49%) of the anglers preferred a reduction in the bag limit. As the limit decreased over the years, fewer people favored a reduction of an already small (6 fish) daily limit. During 1977 more preferred a shorter season than had in 1967.

Oregon asked a similar question in their 1977 questionnaire (Lowery 1978). Adjusted Oregon figures (for only those anglers that had an opinion) indicated that slightly over 70% favored reduced bag limits with only 14.3% favoring a restriction in method and 15.6% favoring shorter seasons. Oregon's trout limit was 10 fish in 1977.



Obviously, more anglers prefer a reduction in bag limit when limits are fairly liberal, but prefer other restrictions when the bag limit is reduced to a relatively small number. Idaho's present limit of six fish appears to be at or close to the minimum number of fish that the fishing public will accept as a general trout limit.

**Table 15.** Desired method of reducing harvest if further restrictions become necessary.

Region	Restrictions in method (%)	Shorter season (%)	Reduced bag limit (%)
1	29.7	30.5	39.8
2	31.9	34.5	33.6
3	26.3	33.7	40.1
4	20.6	34.6	44.8
5	24.7	37.8	37.5
6	27.0	39.0	34.0
<u>7<sup>1/</sup></u>	<u>43.6</u>	<u>19.1</u>	<u>37.3</u>
Weighted $\bar{X}$	28.0	33.4	38.6
1967 $\bar{X}$ <u>2/</u>	25.6	25.1	49.3

1/ Nonresident anglers

2/ Gordon (1970) adjusted to consider only those anglers who expressed an opinion.

### Wild Trout

In those streams that are natural rearing areas for young trout, salmon and steelhead, most anglers preferred that we restrict the fishery to protect those young fish. Eighty percent of the respondents expressed an opinion in regard to protection of young fish. Over 73% of those offering an opinion favored this restriction of the fishery where needed while about 27% favored no restriction and acceptance of the loss of these young fish (Table 16). This is about 10% more in favor of such a restriction in 1977 than were in 1967 (Gordon 1970).

A larger percentage (79.9%) of Region 5 anglers favored a restriction of the fishery to protect young fish where needed while the smallest percentage (64.1%) in favor of this option were from Region 2.

**Table 16.** Angler desires in regard to the possible restriction of the fishery in important natural rearing areas to protect young fish.

Region	Restrict fishery protect young fish (%)	Do not restrict fishery accept loss (%)
1	75.9	24.1
2	64.1	35.9
3	69.0	31.0
4	74.8	25.2
5	79.9	20.1
6	76.1	23.9
7 <sup>1/</sup>	<u>78.5</u>	<u>21.5</u>
Weighted $\bar{X}$	73.3	26.7
1967 $\bar{X}$ <sup>2/</sup>	63.2	36.8

<sup>1/</sup> Nonresident anglers

<sup>2/</sup> Adjusted from Gordon (1970) to include only those anglers that expressed an opinion.

Increased fishing pressure has reduced wild trout populations in many Idaho streams. When anglers were given two alternative methods of meeting this problem, 83.4% expressed an opinion and 16.6% expressed no opinion on the subject. A little less than half of the anglers (46.7%) favored restricting the catch of wild trout to maintain wild populations and slightly more than half (53.3%) favored the continuation of present limits and seasons accompanied by heavy stocking of hatchery trout (Table 17). In 1967, Gordon had found similar results with 83.8% of the anglers expressing an opinion. Those anglers that expressed an opinion were about evenly split in that year also with a slight edge going toward restrictions to protect the wild populations.

I believe that there is a possibility that there could have been some angler confusion in understanding this question. It is possible that an individual reading this question might believe that we are asking which of two methods (restricted catch or heavy stocking) to maintain wild populations is most desirable. Obviously this would solicit a different response than if that individual understood the question to be restricting the wild catch to save wild populations versus heavy stocking in lieu of healthy wild populations.

**Table 17.** Angler preferences in regard to restricting catch of wild trout to maintain wild populations or continuing present limits and seasons and heavy stocking of hatchery fish.

Region	Restrict wild trout catch to maintain wild populations (%)	Continue present limits and stock heavily (%)
1	53.4	46.6
2	44.1	55.9
3	45.5	54.5
4	48.8	51.2
5	46.5	53.5
6	41.9	58.1
7 <sup>1/</sup>	<u>50.2</u>	<u>49.8</u>
Weighted $\bar{X}$	46.7	53.3
1967 $\bar{X}$ <sup>2/</sup>	51.3	48.7

<sup>1/</sup> Nonresident anglers

<sup>2/</sup> Adjusted from Gordon (1970) to include only those anglers that expressed an opinion.

### Special Regulations

Anglers were informed that a number of Idaho's better trout waters have been set aside by special regulations to protect wild trout populations and that in these waters both size and numbers of fish caught has increased over what it was before restrictions were imposed. When asked if this program was worthwhile, 77.9% of the anglers expressed an opinion in regard to whether or not they judged this type of management to be worthwhile. About three fourths (74.9%) of the anglers that expressed an opinion thought the program was worthwhile (Table 18). In contrast 59.9% of the anglers expressing an opinion thought it was worthwhile in 1967.

A minority (42.1%) of the anglers answering this question indicated that they had fished in waters with special regulations (Table 19). Eighteen percent of the anglers that had not fished special regulation waters indicated that they planned to in the future.

A substantial number (22.4%) of the anglers that have not fished special regulation waters or do not plan to in the future still believe that this is a worthwhile program.

**Table 18.** Angler evaluation of the value of special regulation waters.

Region	Special regulations worthwhile (%)	Special regulations not worthwhile (%)
1	73.9	26.1
2	69.5	30.5
3	78.5	21.5
4	78.1	21.9
5	75.9	24.1
6	66.2	33.8
7 <sup>1/</sup>	<u>78.1</u>	<u>21.9</u>
Weighted $\bar{X}$	74.9	25.1
1967 $\bar{X}$ <sup>2/</sup>	59.9	40.1

<sup>1/</sup> Nonresident anglers

<sup>2/</sup> Adjusted from Gordon (1970) to include only those anglers that expressed an opinion.

**Table 19.** Angler response on whether or not they had fished waters with special regulations and the percent of those that have not fished that plan to in the future.

Region	Have fished waters with special regulations (%)	Have not fished waters with special regulations (%)	Have not fished <sup>2/</sup> special regulations but plan to (%)
1	45.3	54.7	17.8
2	45.8	54.2	11.6
3	37.4	62.6	20.7
4	46.0	54.0	16.9
5	38.5	61.5	15.7
6	46.5	53.5	20.3
7 <sup>1/</sup>	<u>41.8</u>	<u>58.2</u>	<u>17.2</u>
Weighted $\bar{X}$	42.1	57.9	18.0

<sup>1/</sup> Nonresident anglers

<sup>2/</sup> This is percent of those that have not fished special regulation waters (Column 2) that plan to in future.

## Department Funding

Anglers were informed that funding for the Department of Fish and Game from license revenues is not keeping pace with inflation and the need for increased involvement with the resource. They were then asked if they would prefer that the Department operate within current revenue levels even though it means cutting back programs or that the Department seek additional funds to maintain or expand existing programs. Such additional funds might come from a license increase, general fund appropriation or another source. Eighty-one percent of the responding anglers offered an opinion on this topic. Seventy-one percent of the anglers offering an opinion favored the seeking of additional funds for the Department (Table 20).

Anglers were asked if they were willing to pay an additional fee through a special stamp or license if some segment of the Idaho fishery was too expensive to maintain with presently available funds. The majority of the anglers were willing to pay an additional \$1 to fish for salmon (60%), steelhead (60%), trout in streams (55%), and trout in lakes (53%). The majority were not willing to pay anything additional to maintain high lake fishing (56%), bass, crappie and sturgeon in streams (71%) or bass, crappie, etc., in lakes or reservoirs (68%) (Table 21). Less than half of the anglers were willing to go as high as \$3 more for any individual segment.

**Table 20.** Angler desires in regard to whether or not they favored the Department seeking additional funds on which to operate or operating within current revenues even if it means cutting back existing programs.

Region	Seek additional operating funds (%)	Operate within current revenues (%)
1	64.9	35.1
2	67.4	32.6
3	71.1	28.9
4	69.1	30.9
5	80.0	20.0
6	72.9	27.1
<u>7<sup>1/</sup></u>	<u>66.8</u>	<u>33.2</u>
Weighted $\bar{X}$	70.8	29.2

1/ Nonresident anglers

**Table 21.** Angler desires in regard to their willingness to pay an additional fee through a special stamp or license if some segment of the Idaho fishery was too expensive to maintain with presently available funds.

Fishery segment	In favor of additional fee					
	No	\$1	\$3	\$5	\$10	>\$10
Salmon	39.7	60.3	46.5	25.0	9.0	2.3
Steelhead	40.4	59.6	44.2	23.8	8.6	2.4
Alpine lakes	55.5	44.5	26.1	12.5	3.9	1.3
Trout (lakes & reservoirs)	46.9	53.1	30.8	12.6	3.8	1.2
Trout (streams)	44.7	55.3	34.4	16.9	5.2	1.7
Bass, crappie, etc. (lakes & reservoirs)	68.2	31.8	17.1	7.6	2.6	1.1
Bass, catfish, sturgeons etc. (streams)	70.8	29.2	15.9	7.7	3.4	1.4

#### Fishing Tournaments or Contests

Fishing tournaments or contests that offer large cash and merchandise prizes are growing in Idaho. Currently there are no rules or regulations governing these tournaments or contests. Anglers were asked if they felt that these contests should be regulated and/or limitations placed on prize values or that these contests should be outlawed. Seventy-five percent of the anglers offered an opinion on this question. Sixty percent of the anglers offering an opinion were of the opinion that these contests should either be regulated (34%) or outlawed (26%). Forty percent favored that these contests remain unregulated (Table 22).

**Table 22.** Angler desires in regard to whether fishing tournaments or contests should be regulated.

Region	Remain unregulated	Regulated	Outlawed
1	40.0	32.9	27.1
2	39.4	27.5	33.1
3	39.0	37.1	23.9
4	43.0	33.8	23.2
5	46.1	29.5	24.4
6	39.7	35.7	24.6
7 <sup>1/</sup>	<u>29.9</u>	<u>38.0</u>	<u>32.1</u>
Weighted $\bar{X}$	39.8	34.1	26.1

<sup>1/</sup> Nonresident anglers

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## APPENDIX

**Table I.** Region 1 waters listed as fished in 1977 by anglers returning questionnaires.

Water	Total	Region of residence							71/
		1	2	3	4	5	6		
Coeur d'Alene Lake	180	103	34	3	-	-	1	39	
Pend Oreille Lake	134	72	12	1	2	1	1	45	
Priest Lake	50	16	2	1	-	-	-	31	
Hauser Lake	30	20	1	-	-	-	-	9	
Spirit Lake	25	17	-	-	-	-	-	8	
Twin Lake	19	10	-	-	-	-	-	9	
Hayden Lake	11	10	-	-	-	-	-	1	
Other lakes & reservoirs	110	94	3	-	-	-	-	13	
Alpine lakes	18	14	1	-	-	-	1	2	
St. Joe River & tributaries	84	40	21	-	-	1	1	21	
Coeur d'Alene River & tributaries	81	74	4	-	-	-	-	3	
Spokane River	18	15	-	-	-	-	-	3	
Moyie River	9	6	-	1	-	-	-	2	
Kootenai River	8	8	-	-	-	-	-	-	
Other streams	67	52	2	-	-	-	-	13	
Total	844	551	80	6	2	2	4	199	

1/ Nonresident anglers.

**Table 2.** Region 2 waters listed as fished in 1977 by anglers returning questionnaires.

Water	Total	Region of residence							1 <sup>1/</sup>
		1	2	3	4	5	6	7	
Dworshak Reservoir	53	1	44	3	-	-	-	5	
Winchester Reservoir	39	1	33	1	-	-	-	4	
Spring Valley Reservoir	19	-	16	1	-	-	-	2	
Soldier Meadows Reservoir	7	-	6	-	-	-	-	1	
Waha Reservoir	2	-	2	-	-	-	-	-	
Other lakes and reservoirs	20	-	19	1	-	-	-	-	
Alpine lakes	27	1	20	2	-	-	2	2	
Clearwater River & tributaries <sup>2/</sup>	146	8	123	4	1	-	1	9	
N. F. Clearwater River	42	4	34	1	-	-	-	3	
Snake River	34	1	26	2	1	-	-	4	
Salmon River	25	2	15	-	-	-	-	8	
Selway River & tributaries	23	-	18	1	-	-	1	3	
Lochsa River & tributaries	16	-	14	-	-	-	-	2	
Kelly Creek	8	-	6	1	-	-	-	1	
Other streams	56	-	51	1	-	-	-	4	
Total	517	18	427	18	2	-	4	48	

<sup>1/</sup> Nonresident anglers.

<sup>2/</sup> Includes all tributaries except North Fork, Lochsa and Selway.

**Table 3.** Region 3 waters listed as fished in 1977 by anglers returning questionnaires.

Water	Total	Region of residence							
		1	2	3	4	5	6	7 <sup>1/</sup>	9 <sup>2/</sup>
Cascade Reservoir	213	-	5	196	3	1	-	8	-
Paddock Reservoir	58	-	1	55	1	-	-	1	-
Brownlee Reservoir	52	-	-	50	-	-	-	1	1
C.J. Strike Reservoir	43	-	-	40	2	-	1	-	-
Payette Lake	31	-	-	27	-	-	-	4	-
Other lakes & reservoirs	325	-	3	309	6	-	1	6	-
Alpine lakes	77	-	3	69	-	1	-	4	-
SNAKE RIVER	135	-	-	127	2	1	-	4	1
Payette River & tributaries	122	-	2	119	-	-	-	1	-
Boise River & tributaries <sup>3/</sup>	107	-	-	102	2	2	-	1	-
S.F. Boise River	99	-	-	80	15	1	-	2	1
Salmon River & tributaries <sup>4/</sup>	44	1	3	36	-	-	-	4	-
Little Salmon River	40	-	9	25	-	-	1	5	-
M. F. Boise River	35	-	-	35	-	-	-	-	-
Weiser River	27	-	1	26	-	-	-	-	-
S.F. Salmon River & tributaries	19	-	-	17	1	-	-	1	-
Other streams	157	-	7	138	3	-	1	8	-
Total	1,584	1	34	1,451	35	6	4	50	3

<sup>1/</sup> Nonresident anglers.

<sup>2/</sup> Residence unknown.

<sup>3/</sup> Includes all tributaries except South Fork and Middle Fork.

<sup>4/</sup> Includes all Region 3 tributaries except South Fork and Little Salmon.

**Table 4.** Region 4 waters listed as fished in 1977 by anglers returning questionnaires.

Water	Total	Region of residence						
		1	2	3	4	5	6	7 <sup>1/</sup>
Magic Reservoir	112	-	-	9	98	-	3	2
Anderson Ranch Reservoir	54	-	-	49	3	2	-	-
Salmon Falls Reservoir	47	-	-	-	44	1	-	2
Little Camas Reservoir	33	-	-	-	32	-	1	-
Roseworth Reservoir	20	-	-	-	18	-	-	2
Mormon Reservoir	20	-	-	6	14	-	-	-
Sublett Reservoir	9	1	-	-	8	-	-	-
Alpine lakes	27	-	-	2	18	5	2	-
Big Wood River	90	-	-	10	69	2	1	8
Snake River	62	-	-	7	54	-	-	1
Silver Creek	50	-	1	13	25	2	1	8
Little Wood River	33	-	-	2	28	2	-	1
Malad River	11	-	-	2	8	-	1	-
Richfield Canal	9	-	-	1	8	-	-	-
Other streams	111	-	-	5	90	5	2	9
Total	793	1	1	155	571	22	10	33

<sup>1/</sup> Nonresident anglers.

**Table 5.** Region 5 waters listed as fished in 1977 by anglers returning questionnaires.

Water	Total	Region of residence						<u>1/</u>
		1	2	3	4	5	6	
Blackfoot Reservoir	86	-	-	-	6	59	10	11
Twin Lakes	37	1	-	1	1	16	4	14
Daniels Reservoir	30	-	-	-	-	13	2	15
American Falls Reservoir	23	-	-	-	1	22	-	-
Chesterfield Reservoir	21	1	-	-	-	18	-	2
Bear Lake	7	-	-	-	-	7	-	-
Other lakes & reservoirs	167	-	-	-	8	110	-	49
Blackfoot River	64	-	-	-	-	54	7	3
Portneuf River	52	-	-	-	-	48	-	4
Snake River	51	-	-	-	4	44	3	-
Bear River	29	-	-	-	-	24	1	4
Other streams	<u>68</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1</u>	<u>60</u>	<u>5</u>	<u>2</u>
Total	635	2	0	1	21	475	32	104

1/ Nonresident anglers.

**Table 6.** Region 6 waters listed as fished in 1977 by anglers returning questionnaires.

Water	Total	Region of residence						
		1	2	3	4	5	6	7 <sup>1/</sup>
Island Park Reservoir	96	-	-	-	8	28	54	6
Palisades Reservoir	62	-	-	-	1	13	43	5
Stanley Basin Lakes	62	-	-	29	17	6	5	5
Henrys Lake	59	-	-	8	4	14	23	10
Ririe Reservoir	57	-	-	-	-	6	51	-
Williams Lake	20	-	-	1	-	-	18	1
Other lakes & reservoirs	44	-	-	1	6	7	25	5
Alpine lakes	58	-	1	22	6	10	16	3
Salmon River & tributaries <sup>2/</sup>	174	-	1	30	32	25	67	19
Henrys Fork & tributaries	165	-	-	8	7	34	99	17
Snake River	83	1	-	1	2	7	68	4
Big Lost River	63	-	1	1	8	28	19	6
S. F. Snake River	61	-	-	3	2	11	42	3
Teton River	52	-	-	-	1	6	41	4
M. F. Salmon River	24	-	-	9	3	1	4	7
Little Lost River	20	-	1	1	-	13	5	-
Other streams	188	-	2	6	6	39	131	4
Total	1,288	1	6	120	103	248	711	99

<sup>1/</sup> Nonresident anglers.

<sup>2/</sup> All Region 6 tributaries except Middle Fork.



**Table 7.** The percentage of questionnaire respondents (by region of residence) using each fishing method 100, 75, 50, 25, 0 percent of the time.

Terminal gear	Percent used	Region of Residence						
		1	2	3	4	5	6	7 <sup>1/</sup>
Flies	100	14.2	21.2	11.2	16.0	9.6	11.0	23.5
	75	12.8	20.5	10.9	16.0	22.0	12.0	15.4
	50	21.6	16.6	13.1	14.3	19.8	20.4	13.2
	25	33.1	30.5	34.2	32.6	27.1	37.2	35.3
	0	18.2	11.3	30.6	21.1	21.5	19.4	12.5
Lures	100	16.0	9.8	7.6	5.2	6.6	8.1	31.8
	75	13.3	8.4	14.3	12.0	7.1	14.9	16.7
	50	28.7	25.9	27.0	18.8	23.2	27.1	18.7
	25	36.7	43.4	43.4	53.9	55.0	40.3	26.3
	0	5.3	12.6	7.6	9.9	8.1	9.5	6.6
Bait	100	24.9	30.4	29.1	39.3	34.2	32.5	22.7
	75	15.2	18.0	23.8	24.3	22.5	20.9	19.0
	50	25.4	23.7	25.7	16.1	21.1	22.8	23.3
	25	27.9	19.1	17.7	18.0	18.8	20.3	27.6
	0	6.6	8.8	3.7	2.3	3.4	3.4	7.4

<sup>1/</sup> Nonresident anglers.

**Table 8.** Degree of satisfaction with salmon fishing (in percent) in 1977, by region of residence.

Region	Excellent	Satisfactory	Unsatisfactory
1	28.1	33.3	38.6
2	7.1	29.5	63.4
3	12.2	29.0	58.8
4	17.3	34.7	48.0
5	12.9	30.6	56.5
6	10.7	31.3	58.0
7 <sup>1/</sup>	13.8	32.8	53.4
Weighted $\bar{X}$	13.5	31.1	55.5

<sup>1/</sup> Nonresident anglers

**Table 9.** Degree of satisfaction with steelhead fishing (in percent) in 1977, by region of residence.

Region	Excellent	Satisfactory	Unsatisfactory
1	19.0	37.9	43.1
2	14.5	39.8	45.7
3	11.0	33.5	55.5
4	13.2	50.9	36.0
5	15.5	33.0	51.5
6	12.2	38.3	49.6
7 <sup>1/</sup>	19.2	35.6	45.2
Weighted $\bar{X}$	13.8	38.1	48.0

<sup>1/</sup> Nonresident anglers

**Table 10.** Degree of satisfaction with alpine lake fishing (in percent) in 1977, by region of residence.

Region	Excellent	Satisfactory	Unsatisfactory
1	24.8	61.0	14.2
2	28.3	57.2	14.5
3	30.5	54.8	14.7
4	29.9	62.0	8.2
5	27.3	54.5	18.2
6	19.5	69.2	11.3
7 <sup>1/</sup>	27.7	57.8	14.5
Weighted $\bar{X}$	27.4	58.9	13.7

<sup>1/</sup> Nonresident anglers

**Table 11.** Degree of satisfaction with trout fishing in lakes and reservoir (in percent) in 1977, by region of residence.

Region	Excellent	Satisfactory	Unsatisfactory
1	20.1	52.5	27.4
2	15.2	67.0	17.8
3	19.5	61.0	19.5
4	24.0	57.8	18.2
5	19.0	66.1	14.8
6	21.1	58.7	20.1
7 <sup>1/</sup>	32.2	43.6	24.2
Weighted $\bar{X}$	21.1	59.0	19.8

<sup>1/</sup> Nonresident anglers

**Table 12.** Degree of satisfaction with kokanee fishing in lakes and reservoirs (in percent) in 1977, by region of residence.

Region	Excellent	Satisfactory	Unsatisfactory
1	34.6	46.2	19.2
2	12.9	62.9	24.2
3	14.4	59.5	26.1
4	12.4	62.9	24.8
5	12.0	54.7	33.3
6	16.4	56.9	26.7
7 <sup>1/</sup>	16.7	51.7	31.7
Weighted $\bar{X}$	17.8	56.4	25.8

<sup>1/</sup> Nonresident anglers

**Table 13.** Degree of satisfaction with fishing for bass, perch, crappie, etc. in lakes and reservoirs (in percent) in 1977, by region of residence.

Region	Excellent	Satisfactory	Unsatisfactory
1	21.8	57.0	21.2
2	18.3	62.4	19.3
3	28.2	54.0	17.8
4	12.4	67.9	19.7
5	17.4	62.6	20.0
6	23.9	43.3	32.8
7 <sup>1/</sup>	15.9	58.0	26.1
Weighted $\bar{X}$	22.6	57.3	20.2

<sup>1/</sup> Nonresident anglers

**Table 14.** Degree of satisfaction with trout fishing in rivers or streams (in percent) in 1977, by region of residence.

Region	Excellent	Satisfactory	Unsatisfactory
1	21.6	49.3	29.1
2	22.1	51.2	26.6
3	27.1	53.3	19.6
4	31.5	54.8	13.7
5	33.0	46.9	20.1
6	30.1	51.6	18.3
7 <sup>1/</sup>	27.5	51.6	20.9
Weighted $\bar{X}$	27.9	51.7	20.4

<sup>1/</sup> Nonresident anglers.



**Table 15.** Degree of satisfaction with whitefish fishing in rivers or streams (in percent) in 1977, by region of residence.

Region	Excellent	Satisfactory	Unsatisfactory
1	12.7	69.0	18.3
2	16.9	62.3	20.8
3	21.4	57.7	21.0
4	19.4	55.2	25.4
5	15.3	61.1	23.6
6	26.3	50.9	22.8
7 <sup>1/</sup>	10.0	62.5	27.5
Weighted $\bar{X}$	19.3	58.6	22.1

<sup>1/</sup> Nonresident anglers.

**Table 16.** Degree of satisfaction with fishing for bass, catfish, sturgeon, etc. in rivers or streams (in percent) in 1977, by region of residence.

Region	Excellent	Satisfactory	Unsatisfactory
1	11.6	65.2	23.2
2	11.4	56.8	31.8
3	21.6	55.9	22.5
4	10.5	70.5	18.9
5	7.5	43.4	49.1
6	6.7	42.2	51.1
7 <sup>1/</sup>	9.8	58.5	31.7
Weighted $\bar{X}$	15.3	57.3	27.4

<sup>1/</sup> Nonresident anglers.

**Table 17.** Angler preference, by region of residence, in regard to desired program emphasis that should be placed on protection and enhancement of wild trout populations.

Region	More emphasis (%)	Less emphasis (%)	No change in emphasis (%)
1	70.1	4.2	25.7
2	64.0	2.9	33.1
3	65.2	5.3	29.5
4	72.2	1.9	25.9
5	73.3	4.8	21.9
6	68.9	5.8	25.3
7 <sup>1/</sup>	74.7	4.4	21.0
Weighted $\bar{X}$	69.0	4.4	26.6

<sup>1/</sup> Nonresident anglers.

**Table 18.** Angler preferences, by region of residence, in regard to desired program emphasis that should be placed on habitat protection.

Region	More emphasis (%)	Less emphasis (%)	No change in emphasis (%)
1	68.6	2.1	29.3
2	66.2	4.3	29.4
3	65.7	3.4	30.9
4	67.6	3.8	28.7
5	71.1	3.1	25.8
6	69.2	2.6	28.1
7 <sup>1/</sup>	67.0	3.8	29.2
Weighted $\bar{X}$	67.6	3.3	29.1

<sup>1/</sup> Nonresident anglers.

**Table 19.** Angler preferences, by region of residence, in regard to desired program emphasis that should be placed on catchable-sized hatchery fish production.

Region	More emphasis (%)	Less emphasis (%)	No change in emphasis (%)
1	54.2	11.0	34.8
2	60.0	8.4	31.6
3	60.6	4.4	35.0
4	57.2	7.8	35.0
5	71.2	4.0	24.8
6	65.6	6.4	28.0
7 <sup>1/</sup>	60.3	10.3	29.3
Weighted $\bar{X}$	61.4	6.8	31.8

<sup>1/</sup> Nonresident anglers.

**Table 20.** Angler preference, by region of residence, in regard to desired program emphasis that should be placed on warm-water fish introductions and management.

Region	More emphasis (%)	Less emphasis (%)	No change in emphasis (%)
1	31.3	17.8	50.9
2	42.7	11.9	45.4
3	47.7	10.0	42.4
4	46.2	12.8	41.0
5	33.8	22.9	43.2
6	31.0	17.3	51.6
7 <sup>1/</sup>	29.6	25.7	44.7
Weighted $\bar{X}$	40.0	15.2	44.8

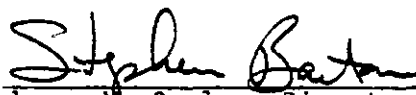
<sup>1/</sup> Nonresident anglers.

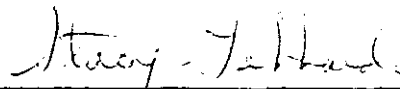
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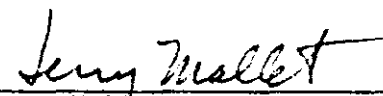
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